

A NEW SUBSPECIES OF *DELIAS MYSIS* (FABRICIUS)  
(LEPIDOPTERA: PIERIDAE) FROM THE GULF OF  
CARPENTARIA, QUEENSLAND, AUSTRALIA

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**Abstract**

*Delias mysis smithersi* subsp. n. is described from Karumba and Kowanyama, southeastern Gulf of Carpentaria, Queensland.

**Introduction**

*Delias mysis* (Fabricius) is a common species along the eastern coast of Queensland (subsp. *D. m. mysis*) and less common in the Northern Territory (subsp. *D. m. aestiva* Butler). A new subspecies, collected enroute to the Royal Geographical Society of Queensland Flinders 2002 Expedition to Sweers Island, is from the lower part of the Gulf of Carpentaria, Queensland and is geographically midway between the eastern and western subspecies.

*Delias mysis smithersi* subsp. n.

(Figs 1-6)

*Types.* *Holotype* ♂, AUSTRALIA (QUEENSLAND): Karumba, Qld, 17°29'S 140°50'E, 9.x.2003, G. and A. Daniels, urban garden. *Paratypes*: 1 ♂, Karumba, Qld, 17°29'S 140°50'E, 12.xii.2002, G. Daniels, urban; 1 ♂, Mitchell River, Q., 26.x.[19]71. I.S.R. Munro, I.S.R. Munro Collection (all in Australian Museum).

*Description.* Male. Wingspan 56-60 mm. Upperside. Forewing white, with narrow black costa, apex black enclosing five large white subapical spots. Hind wing white, with narrow black terminal band. The red and black markings on the underside of the hind wing are faintly visible. Underside. Forewing similar to upperside but with the first subapical spot faintly yellow. Hind wing white, with base and dorsum broadly yellow and with a narrow black terminal band bordered by a much narrower scarlet subterminal band which ends at cell Rs; the inner margin of the subterminal band is bordered by an extremely narrow black band which is absent in cell Rs and may be absent in cell M<sub>1</sub>.

Female unknown.

*Etymology.* I am pleased to dedicate this paper to the memory to my late friend, Courtenay Smithers, who gave me much help and encouragement when starting out in entomology many years ago.

**Taxonomy**

The reduced inner black subterminal band is similar to that of *Delias doylei* Sanford & Bennett from Papua New Guinea but that species has much of the hind wing underside suffused yellow and the subapical spots of the forewing underside are yellow.



**Figs 1-8.** *Delias mysis* males. (1-6) *D. mysis smithersi* subsp. n. (1-2) Holotype from Karumba: (1) underside; (2) upperside. (3-4) Paratype from Karumba: (3) underside; (4) upperside. (5-6) Paratype from Mitchell River: (5) underside; (6) upperside. (7) *D. mysis aestiva* from Northern Territory. (8) *D. mysis mysis* from Queensland.

Davenport and Mastrigt (2008) reviewed the *Delias mysis* group of species and raised *Delias mysis lara* (Boisduval) from New Guinea to species level, based upon the sympatric distribution of *D. mysis lara* and *D. mysis nemea* Fruhstorfer in the Merauke District of Papua. Davenport and Mastrigt distinguished the two species by the subapical spots on upperside of forewing, being well developed and streak-like, forming a white band with black veins in *D. mysis*, while in *D. lara* they are white, quite poorly developed and even sometimes absent. *Delias mysis smithersi* agrees with the characters given by Davenport and Mastrigt for *Delias mysis*.

The upperside subapical forewing spots of *D. m. smithersi* are larger and the black apical area is less extensive than in *D. mysis mysis* (Fig. 8). The narrow terminal black band of the hind wing upperside is narrower than in *D. mysis mysis*. The hind wing underside has the scarlet subterminal band ending in cell Rs; this feature is shared with *D. mysis aestiva* (Fig. 7).

*Delias mysis smithersi* differs from *D. mysis aestiva* by the much narrower black terminal band of the hind wing underside and, on the hind wing underside, the black band on the inner margin of the scarlet subterminal band is much wider in *D. m. aestiva* (Fig. 7).

Although some specimens of *D. mysis mysis* have reduced black markings on the upperside, none had a corresponding reduction to the black and scarlet markings on the underside of the hind wing (n = 82) and none had the inner subterminal black band anywhere near as reduced.

The three specimens show little variation. In two specimens the scarlet band in the hind wing cell Rs is present as a spot; one specimen has the apical black area on the upper- and undersides much smaller with a corresponding reduction in the size of the subapical white spots. All specimens are worn, which could indicate a winter flight period.

### Distribution

The nearest populations of *Delias mysis* to Karumba and Mitchell River can be found some 500 km to the east, along the eastern coast of Queensland (Braby 2000) and a similar distance to the north-east at Weipa (Hancock and Monteith 2004), where adults are associated with rainforest. Karumba is on the northern edge of the vast savannah-eucalypt woodlands where there are no large tracts of rainforest. Adults of the Northern Territory subspecies, *D. mysis aestiva*, can be found near mangroves and melaleuca swamps (Ted Fenner pers. comm.) and this is perhaps the habitat where the Karumba population is more abundant, as the type locality is situated approximately 500 m from the mangrove areas of the mouth of the Norman River. Collecting there is another matter!

The two Karumba specimens were collected in the grounds of Matilda's End Motel. The first specimen collected was feeding at eucalyptus blossom. Within 200-300 m of the motel grounds are numerous eucalypts festooned

with mistletoe. Despite observing the mistletoe for several days no *Delias mysis* were observed, although *Delias argenthona* (Fabricius) was found to be exceedingly abundant.

Talbot (1937) examined a male specimen from Groote Eylandt (coll. Bodley, ex coll. Joicey) in the northwestern area of the Gulf of Carpentaria. Talbot placed this specimen in subsp. *D. m. mysis*, stating: 'This specimen should belong to *aestiva*; but only differs from *mysis* in having a narrow black outer border on the hind wing beneath.' An examination of the collection of the Natural History Museum, London by R. Eastwood in 2004 failed to locate this specimen and its whereabouts and subspecific placement remain unknown. Apart from this problematic Groote Eylandt record, *D. m. aestiva* is only known to come as far eastwards in the Northern Territory as the Cobourg Peninsula (*vide* Braby 2000).

### Acknowledgements

The first specimen from Karumba was collected during the Royal Geographical Society of Queensland Flinders 2002 Expedition to Sweers Island and I thank the Society for its support. Rod Eastwood kindly examined material in the Natural History Museum, London. Max Moulds (Australian Museum), kindly loaned material in his care. Fred Gerrits provided a copy of Davenport and Mastrigt's publication.

### References

- BRABY, M.F. 2000. *Butterflies of Australia. Their identification, biology and distribution*. 2 vols. CSIRO Publishing, Collingwood; xx + 976 pp.
- DAVENPORT, C. and MASTRIGT, H. von 2008. Revision of *Delias mysis* (Fabricius, 1775) and closely related species (Lepidoptera: Pieridae). *Suara Serangga Papua* 3(2): 15-31.
- HANCOCK, D.L. and MONTEITH, G.B. 2004. Some records of butterflies (Lepidoptera) from western Cape York Peninsula, Queensland. *Australian Entomologist* 31: 21-34.
- TALBOT, G. 1937. *A monograph of the pierine genus Delias*. Part VI. Pp i-v, 261-656, pls 8-36, 44-53, 60-67, 71. British Museum (Natural History), London.